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THE PROSPECTS FOR UTAH COAL

Garth Mangum and MacLeans Geo-JaJa*

To review Utah's recent coal history, in 1975 coal production amounted to 6.9 million tons, and the forecast was for 22.5 million tons in 1980 and 66 million tons at some unspecified date in the future.[1] Even the mines in existence in 1975 were expected to bring their eventual production to 26 million tons. Paralleling those production expectations, coal mine employment which stood at 2,461 in 1975, was projected for 7,650 in 1980 and 16,610 at that unspecified future date.

In fact, to 1985, Utah coal production never exceeded 17.6 million tons (1982) and had dropped to 14.3 million tons by 1985 (Table 10). Utah coal mining employment peaked at 5,151 in 1982 before dropping to 2,878 in 1985 and below that in mid-1986 (Table 10). What happened to those rosy (if one can use that term in relation to coal) expectations of the 1970s and what can be expected for the Utah coal industry in the future? That is the purpose of this article. To explain and predict it is necessary to rely upon an explanation of international, national and local economic relationships and an examination of the structure of the coal industry and its markets.

Characteristics of the Coal Industry[2]

Contrary to the perceptions of a few years ago, energy is an abundant, not a scarce resource. Only the success of a cartel of small and previously unimportant countries in monopolizing temporarily the supply of the most attractive commercial source of energy in the industrial world created the illusion of scarcity. Coal is the most abundant and the cheapest commercially available energy source in the United States and the world. But it is also bulky, dirty, often dangerous to extract, and threatening to the environment. Energy users do not seek tons of coal or uranium ore, barrels of oil or cubic feet of natural gas. They seek Btus (British Thermal Units) of

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*Garth Mangum is the Max McGraw Professor of Management and Economics and Director of the Institute for Human Resource Management at the University of Utah. MacLeans Geo-JaJa holds a Ph.D. degree in Economics from the University of Utah.

[1] Utah's Coal Mining Industry: Perspectives on Its History and Potential. Utah Job Service and the College of Eastern Utah, Utah Department of Security, Salt Lake City, Utah, June 1976.

[2] This section is summarized from Richard Hannah and Garth Mangum, The Coal Industry and Its Industrial Relations. Salt Lake City: Olympus Publishing Company, 1985.

energy delivered at low cost at desired locations in conveniently handled form with minimal environmental damage. Coal must offset its disadvantages on all of the other criteria by its availability and cost advantages.

The Supply of U.S. Coal

For understanding the U.S. coal industry the key word is "over-capacity." The United States might be called the Saudi Arabia of coal, having 29 percent of the world's recoverable coal, comparable to Saudi Arabia's holding of 23 percent of the world's oil (and the Soviet Union of 43 percent of the world's natural gas reserves). Twenty-six states have significant recoverable coal reserves and amounts of production (Tables 1 and 2). Of these, Utah is 16th in reserves, 22nd in output and the only state which thus far gets all of its coal from underground mines.

At the level of output of 1980, without further discovering of reserves, the world had coal for 300 years, oil for 100 years and uranium which, with the use of breeder reactors, was enough to last for 4,000 years. However, the U.S. has coal supplies enough to last beyond that estimate, uranium for such an interminable period, but oil for only an estimated 30 years. The oil glut in the long run will be as ephemeral as the energy crisis.

Throughout most of industry history, coal mines could be opened with relatively little capital. Production methods were labor-intensive and labor was abundant and relatively cheap. Once opened, a mine could not be shut down without substantial maintenance cost or abandonment because of the accumulation of water; hence, came the pressure to continue to operate as long as variable costs could be covered with any slight contribution to fixed costs.

Table 1
Demonstrated Reserve Base of Coal by Rank and Potential Method of Mining, 1982
(million short tons)

Coal Producing Region & State	Anthracite	Bituminous	Subbituminous	Lignite	Underground	Surface	Total
Appalachian Total	7,204.7	102,875.1	–	1,083.0	90,148.2	21,014.5	111,162.7
Alabama	–	4,118.9	–	1,083.0	1,740.0	3,461.9	5,201.9
Kentucky, Eastern	–	12,564.8	–	–	8,492.7	4,072.1	12,564.8
Maryland	–	809.9	–	–	706.1	103.8	809.9
Ohio	–	18,944.8	–	–	13,019.5	5,925.3	18,944.8
Pennsylvania	7,079.2	22,926.0	–	–	28,831.6	1,173.6	30,005.2
Tennessee	–	952.8	–	–	636.7	316.1	952.8
Virginia	125.5	3,196.7	–	–	2,497.8	824.4	3,322.2
West Virginia	–	39,346.8	–	–	34,211.1	5,135.6	39,346.8
Interior Total	104.1	121,509.1	–	13,505.9	93,814.8	41,304.4	135,119.2
Arkansas	104.1	288.4	–	25.7	272.5	145.6	418.1
Illinois	–	78,769.3	–	–	63,112.2	15,657.1	78,769.3
Indiana	–	10,510.0	–	–	8,934.8	1,575.3	10,510.0
Iowa	–	2,195.9	–	–	1,733.6	462.3	2,195.9
Kansas	–	990.9	–	–	–	990.9	990.0
Kentucky, Western	–	20,947.0	–	–	16,921.1	4,025.9	20,947.0
Missouri	–	6,056.2	–	–	1,479.1	4,577.1	6,056.2
Oklahoma	–	1,623.8	–	–	1,238.4	385.4	1,623.8
Texas	–	–	–	13,480.3	–	13,480.3	13,480.3
Western Total	27.8	24,740.9	181,652.4	30,251.1	140,954.3	95,717.8	236,672.1
Alaska	–	697.5	5,441.0	14.0	5,423.0	729.6	6,152.6
Arizona	–	381.9	–	–	101.6	280.3	381.9
Colorado	25.5	9,044.7	3,962.7	4,189.9	12,272.0	4,950.8	17,222.8
Montana	–	1,385.4	103,198.7	15,764.5	70,958.7	49,389.9	120,348.6
New Mexico	2.3	2,053.1	2,647.1	–	2,129.4	2,573.1	4,702.5
North Dakota	–	–	–	9,908.5	–	9,908.5	9,908.5
South Dakota	–	–	–	366.1	–	366.1	366.1
Utah	–	6,422.6	1.1	–	6,155.8	267.9	6,423.7
Washington	–	393.7	1,157.2	8.1	1,322.3	136.7	1,469.0
Wyoming	–	4,447.5	65,227.1	–	42,562.7	27,112.0	69,674.6
U.S. Total	7,336.6	249,125.0	181,652.4	44,840.0	324,917.3	158,036.6	482,954.0

Note: Total does not equal sum of components because states with less than 300 million short tons deleted.

Source: Energy Information Administration, Coal Production, 1982.

Table 2
U.S. Coal Production and Number of Coal Mines by Coal Producing Region and State and by Type of Mining: 1982
(thousand short tons)

Coal Producing Region & State	Number of Mines	Production	Underground Number of Mines	Underground Production	Surface Number of Mines	Surface Production
U.S. Total	4,098	832,524	1,991	337,010	2,107	495,514
Appalachian Total	3,592	427,889	1,862	257,383	1,730	170,507
Alabama	156	26,226	17	11,291	139	14,936
Kentucky, Eastern	1,209	109,030	684	57,069	525	51,961
Maryland	34	3,764	6	1,899	28	1,865
Ohio	185	36,337	16	12,219	169	24,117
Pennsylvania	600	78,279	112	35,864	488	42,416
Tennessee	105	7,287	51	4,518	54	2,769
Virginia	519	39,068	404	30,992	115	8,076
West Virginia	784	127,899	572	103,531	212	24,368
Interior Total	372	177,910	71	54,002	301	123,908
Illinois	60	60,259	34	34,660	26	25,599
Indiana	97	31,722	4	1,570	93	30,152
Kansas	6	1,401	--	--	6	1,401
Kentucky, Western	131	38,900	31	17,715	100	21,186
Missouri	14	5,336	--	--	14	5,336
Oklahoma	42	4,770	2	57	40	4,712
Texas	11	34,818	--	--	11	34,818
Western Total	134	226,724	58	25,625	76	201,099
Arizona	2	12,364	--	--	2	12,364
Colorado	41	18,307	25	6,613	16	11,694
Montana	9	27,882	--	--	9	27,882
New Mexico	10	19,940	2	708	8	19,233
North Dakota	12	17,848	--	--	12	17,848
Utah	29	17,029	29	17,029	--	--
Washington	2	4,161	--	--	2	4,161
Wyoming	28	108,360	2	1,276	26	107,084

Note: Excludes mines producing less than 10,000 short tons and states producing less than 1 million short tons of coal during the year. Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration, Coal Production, 1982.

Coal prices fluctuated widely with changes in demand, with periods of downward pressure outlasting the infrequent coal booms, usually related to wars.

Three Significant Changes Realized--However, three significant changes were evident in the coal boom of the 1970s and the decline in the 1980s. The first was the role of the oil companies. The costs of capital in the coal industry had been increasing substantially with consequent restriction on the ease of entry. However, the oil industry treasuries were swollen during the 1970s from the flow of cash generated under the twelvefold OPEC oil price increases. U.S. oil companies resolved to become total energy companies. Some bought out existing coal mining companies; others directly purchased or leased coal properties and formed their own new mining subsidiaries.

Geographical Change--The second change was geographical. Since the unexploited coal resources were in the Western States, that was the direction the money flowed. States east of the Mississippi accounted for 95 percent of coal production in 1960 but only 68 percent in 1980. Once the oil companies entered the industry, there were no significant capital constraints and the new mines quickly became the equal or the superiors to the older ones in productivity. In addition, with the exception of Utah and to a lesser degree, Colorado, the western coal resources were better attacked by surface than by underground mining techniques. Hence, the industry which had been over 70 percent underground in 1950 was 60 percent surface by 1980.

Thus on the 1970s side of the coal boom cycle even greater expansion occurred than during previous

periods and in a more capital-intensive and geographically diverse direction. And on the 1980s down-side there was more staying power with well capitalized firms able to stockpile coal or accept the cost burdens of standby status rather than slash prices as soon as the pace of demand declined. Nevertheless, the disappointment of coal revenue projections right at the time other sources of income were declining and the realization that prosperity is always temporary in the coal industry has motivated many of the oil companies to seek to divest themselves of their coal interests.

The Demand for U.S. Coal

The third major new force in the historical coal picture is the shift in end uses. Coal has only two uses: (1) as a source of energy and (2) as a raw material in production processes. However, the availability of cleaner alternative sources for home heating and the disappearance of the steam locomotive long ago destroyed two important sources of energy demand. In addition, with the exception of electric power generation, all of the heavy industrial users of coal have themselves been in long-term decline (Table 3).

The three critical factors explaining the disappointed projections of U.S. output were the slower-than-expected rates of electricity growth, the shift in synthetic fuels policy and the failure of the export market. Electrical consumption in the U.S. grew by more than 7 percent per year throughout the 1960s, slowing to 5 percent during the first half of the 1970s and 4 percent during the second half. By that time approximately one-half of all the kilowatt hours of electricity produced in the U.S. was generated by coal-fired plants and three-quarters of the coal mined was used for that purpose. However, the electrical growth rate slowed sharply so that the 1985 output was less than 10 percent above that of 1979 (Table 4), in part because of the deep early 1980s recession, but also because of the mood of energy conservation emanating from the high prices of the 1970s.

The federal policy advocating and even in some cases requiring a shift from oil to coal and the commitment of funds for the development of synthetic fuels, including gasoline from coal, was all conditioned on the high price and uncertain supplies of oil. A shift in policy orientation from the interventionist-minded Carter Administration to the free market Reagan policies took the public policy emphasis away from coal use, but the oil glut removed the short run rationale for coal preference.

Export Market Situation--The oil embargoes and price increases struck at the same time there was considerable labor unrest in Australia and Poland. Suddenly, there was great excitement about an export market for U.S. coal. Projections were for world coal demand to reach 5.8 billion tons by the year 2000 with 580 million tons of it expected to be exported and imported. Instead, world exports peaked at 230 million tons in 1981 and dropped to 215 million tons by 1983. U.S. exports surged to 90 million tons in 1980 and 112 million tons in 1981 (Table 3). However, that turned out to be the peak rather than a way-station to prosperity. Hopes were dashed as exports slid to 106 million tons in 1982 and 92 million tons in 1985. U.S. coal exports are now forecast by some to be only between 34 and 48 million tons by 1990.

The immediate decline in U.S. exports was the simultaneous result of a worldwide recession and the renewal of production in Poland and Australia. However, South Africa is expanding its export capacity, Colombia is fast becoming a major exporter and China threatens to dominate the Far Eastern market in the future--the latter aided by the infusion of billions of dollars of Japanese investments. Colombia is now making significant inroads into the U.S. market by exports to gulf and southeastern U.S. ports at prices below those of interior U.S. mines.

Electricity Demand Component--For the foreseeable future, therefore, the demand for coal depends upon the demand for electricity and the attractiveness of available alternatives for generating it. Nuclear energy for a time appeared to be potent competition for coal-fired generation. Now, however, high initial capital costs, uncertainties about waste disposal and fear of nuclear accidents appear to have slowed the expected further growth of nuclear energy. Electrical generation from wind, the burning of garbage and other inexhaustible sources have been discussed but never on a practical level. Viable hydroelectric sites have largely been exploited, but the production costs of hydroelectric power are such that coal has little likelihood of replacing that source where it predominates as in the Northwest and Mid-South. Hence coal's most serious competitors for expansion as a source of energy for electrical generation are oil and natural gas. Coal is more plentiful and cheaper than either of them (Table 5), but it is also more difficult to handle.

Table 3
U.S. Coal Consumption and Exports, Selected Years
(thousand tons)

Year	Electric Power Utilities	Coking Coal	Other Industrial Users	Retail Deliveries	Total U.S. Consumption	Exports
1947	86,009	104,800	141,110	96,657	545,891	68,667
1951	101,898	113,448	116,668	74,378	468,904	56,722
1954	115,235	85,391	85,342	51,798	363,060	31,041
1956	154,983	105,913	101,961	48,667	432,858	68,553
1959	165,788	79,181	81,039	29,138	366,256	37,253
1965	242,729	94,779	93,735	19,048	459,164	50,181
1970	318,921	96,009	88,617	12,072	515,619	70,944
1975	403,249	83,272	62,498	7,282	556,301	65,669
1976	447,021	84,324	60,505	6,900	598,750	59,406
1977	477,100	77,700	61,500	9,000	625,300	54,700
1978	481,200	71,400	63,100	9,500	625,200	40,700
1979	527,100	77,400	67,700	8,400	680,500	66,000
1980	569,274	66,657	60,347	6,451	702,729	91,742
1981	596,797	61,014	67,395	7,421	732,627	112,541
1982	593,666	40,908	64,318	8,140	707,032	106,277
1983	619,427	43,517	73,714	8,448	736,658	97,787
1984	664,339	44,022	73,745	9,130	791,296	81,483
1985	693,841	41,056	75,317	7,779	817,993	92,680

Source: U.S. Bureau of Mines in Minerals Yearbook and Coal: Bituminous and Lignite.

Table 4
Generation of Electric Energy by Energy Source
1979-1985
(billion kilowatt hours)

	1979	1980		1981		1982		1983		1984		1985	
Energy	Generation	Generation	% Change from 1979	Generation	% Change from 1980	Generation	% Change from 1981	Generation	% Change from 1982	Generation	% Change from 1983	Generation	% Change from 1984
Coal	1,075	1,162	8.0	1,203	3.5	1,192	-0.9	1,259	5.6	1,342	6.6	1,401	4.4
Oil	304	246	-18.8	206	-16.3	147	-28.6	144	-2.0	119	-17.6	100	-16.0
Gas	329	346	5.2	346	0.0	305	-11.8	274	-10.2	297	8.0	292	-1.7
Nuclear Power	255	251	-1.6	273	8.8	283	3.7	294	3.9	328	11.6	384	17.1
Hydro-Electric Power	280	276	-1.4	261	-5.4	309	18.4	334	8.1	321	-3.9	282	-12.1
Other[a]	6	6	0.0	6	0.0	5	-16.7	6	0.2	8	33.3	11	3.8
Total[b]	2,247	2,286	1.7	2,295	0.4	2,241	-2.4	2,310	3.1	2,416	4.6	2,469	2.2

[a]Other includes geothermal, wood and waste.
[b]Totals may not equal sum of components because of independent rounding.

Source: Energy Information Administration: Monthly Energy Review, Washington, D.C., December 1985, pg. 78.

Table 5
Average Cost of Fossil Fuels Delivered to Steam-Electricity Utility Plants[a]
($ per million Btu)

Year	Coal	Residual Oil	Gas[b]	All Fossil Fuels
1973	.41	.79	.34	.48
1974	.71	1.91	.48	.91
1975	.81	2.01	.75	1.03
1976	.85	1.96	1.03	1.10
1977	.95	2.20	1.30	1.28
1978	1.12	2.12	1.44	1.39
1979	1.22	3.00	1.75	1.62
1980	1.35	4.28	2.21	1.90
1981	1.53	5.29	2.83	2.23
1982	1.65	4.76	3.41	2.23
1983	1.66	4.58	3.47	2.21
1984	1.66	4.81	3.58	2.19
1985	1.65	4.25	3.45	2.11

[a]Includes all steam electricity utility generating plants with a capacity of 25 megawatts or greater.

[b]Includes small quantities of coke oven gas, refinery gas and blast furnace gas as well as natural gas.

Source: Energy Information Administration, Monthly Energy Review, Washington, D.C., December 1985, pg. 104

The industry's rule of the thumb is that coal's cost must be less than one-half that of competing fuels to offset its handling disadvantages. As Table 5 illustrates, in 1985, with oil costing around $25 per barrel, coal had the required advantage; as oil prices dropped below $15 per barrel--as in 1986--coal began to lose its competitive edge. No longer was an incentive present to shift to coal, and some of those former users who had retained their oil and gas burning technology were tempted to shift back. Coal prices must fall to protect the market, but coal prices are tied more closely to the costs of production than is the case for its competitors.

One consequence of the growing importance of electrical generation as an end use for coal is greater market stability. Though electrical consumption is affected by the business cycle, it is not as cyclically sensitive as industrial coal users. In addition, the public utilities have the financial ability and incentive to maintain large stockpiles of coal. That protects them against supply interruptions (except when they enlarge their stockpiles in anticipation of a strike which does not occur), and it also helps stabilize demand for the coal producers.

Another consequence is that the public utilities must assure their supplies of coal long in advance. Within the energy gloom (and coal boom) of the 1970s, public utilities and other large users of coal sought to protect their energy supplies by entering into long term 20- and 30-year coal supply contracts, some committing to pay over $80 per ton. Others bought their own coal properties, either operating the mines directly or contracting out the operation. These typically proved more expensive than the coal contracts with experienced mining firms.

Coal Price Consequences

The larger and better financed coal producers on the one hand and the steadier demand on the other have made coal prices less volatile than in the past. Nevertheless, the falling oil prices of 1985 and 1986 and the realization of the overcapacity which had been created in anticipation of growth which was never going to happen, put downward pressure on the spot market coal price of coal. Table 6 gives the average contract and spot price for 1985 by state of coal origin. By mid-1986, spot prices were down to $21 per ton for coal of Utah's quality and considerably lower for coals of lesser Btu content. Some coal users were seeking to escape from their supply contracts whereas producers were resisting entering new contracts at such low prices. Public regulatory agencies were applying pressure on those utilities using high cost coal in their pricing structure. It was not a happy time for either producer or user.

Table 6
Cost of Coal for Electric Plants by State of Coal Origin, 1985

State	Cents per Million Btu	Average Price per Ton at Contract Purchase	Average Price per Ton of Spot Purchase
Montana	65.7	11.49	na
Wyoming	90.1	15.77	na
Colorado	117.2	22.87	25.30
Utah	117.8	27.72	31.55
Kentucky	146.7	33.13	28.06
Tennessee	154.5	36.77	28.14
Pennsylvania	159.5	39.72	30.04
West Virginia	153.8	40.95	29.78
Indiana	165.9	35.85	26.53
Ohio	176.9	42.00	31.32
Illinois	214.8	45.22	29.68
Alabama	216.1	52.34	36.30

Source: Energy Information Administration, Cost and Quality of Fuels for Electricity Utility Plants, September 1985.

The Environmental Issues

Coal mining and use raise environmental issues at the production, transportation and consumption stages. At the production point, both surface mined and underground coals have their environmental consequences. These range from stream and groundwater contamination and surface subsidence from underground mines to topographical and aquifer damage from surface mines. However, more stringent governmental controls in recent years have reduced these concerns. The transportation issue has been the possibility for coal slurry pipelines, but railroad opposition accompanied by decreased output projections seems to have silenced that debate.

Acid Rain Issue--The critical environmental issue, therefore, is acid rain. At the consumption end, the environmental advantage is with the western coal producers. Western coals, both deep underground and close to the surface, are low in sulfur content in comparison to eastern coals (Table 7). All coal burning results in the emission of irritating particulate matter which can be controlled at substantial cost by various technologies. The emissions of sulfur dioxide and nitric oxide are the more serious problems and also the most expensive to deal with. These emissions are contributors to the acid rain threat of rising concern to the Midwestern and Northeastern states and to Eastern Canada. Two solutions exist insofar as coal's culpability is concerned: burn coal of low sulfur content or install technologies to lower the emissions into the atmosphere. Lower sulfur western coals would be an attractive alternative for many eastern users, despite the added transportation costs, were it not for some of the federal environmental legislation successfully pursued by the political representatives of eastern coal-producing states. Requiring that the "best available control technology" (BACT) must be used, regardless of the sulfur content of the coal being burned, means that even if untreated low sulfur coal would emit less harmful matter than treated high sulfur coal, expensive technologies would still be required for the former. The issue is not a threat to jobs in the coal industry but essentially whether the jobs are to be eastern or western.

Table 7
Coal Quality Indicators by Selected State, 1984

State	Percent Sulfur by Weight	Average Btu per Pound
Utah	.5	11,575
West Virginia	1.8	12,492
Pennsylvania	1.8	12,266
Alabama	1.4	12,129
Tennessee	1.4	12,530
Kentucky	1.8	12,012
Ohio	3.3	11,664
Colorado	.5	10,728
Indiana	2.5	10,937
Illinois	2.7	11,027
Montana	.6	8,968
Wyoming	.4	8,639

Source: U.S. Department of Energy, Energy Information Administration, Cost and Quality of Fuels for Electric Utility Plants: 1984, (Washington, D.C.) 1985, p. 20.

Transportation Technology--A related issue involves transportation technology. Three-fourths of coal output moves to market by rail. Transportation costs average about 50 percent of the delivered cost, with a higher proportion for western mines. An alternative is that coal can be transported through pipelines when mixed with water as coal slurry. The railroads and those dependent upon railroad employment have been the major opponents of allowing coal slurry pipelines the right of eminent domain necessary to cross private lands. East-West competition enters this issue also because coal slurry would be more beneficial in the long distances of the West. However, the issue is environmental as well as competitive. Environmental groups in the eastern states have opposed it because of the necessary excavation, perhaps identifying coal pipelines with strip mining. The non-mining residents of the arid west have been ambivalent because of the potential threat to scarce water supplies. Where one stands tends to depend upon where one sits. Though an extensive network of coal slurry pipelines is on the drawing boards, only one is currently operating. The relative gains and losses among regional coal sources will be determined by the interaction among these complex forces.

A longer run environmental threat hovers from any burning of fossil fuels, including oil and gas as well as coal. A "greenhouse effect" in the upper atmosphere could radically change the world climate, even threatening the tenure of life on the planet. But ranged against this is the radiation accident and waste disposal challenge of nuclear power and the slow progress on solar and various renewable energy sources. The ultimate resolution of those issues are in the future and beyond the scope of this article.

The Cost Issue

The cost challenges facing the coal industry differ from those confronting most hard hit U.S. industries in that they are not of international origin. Low cost coal from other nations prevent the U.S. from enlarging its export markets but the possibilities for import competition are not substantial. Coal's price challenge is in relation to competitive fuels. Already under heavy pressure, further cost savings are limited to labor, technology and transportation.

The United Mine Workers came into existence to try to take wages out of competition, but it was successful only for a few years during and immediately after the Second World War. Whereas at that time, 90 percent of the coal mined in the U.S. was produced by the UMWA, only 40 percent is today. In the West, the nonunion mines typically pay higher wages but grant somewhat lower fringe benefits than the union mines. The motives are dual: to attract workers to the mines and discourage union membership. In the East and Midwest, the union mines are generally better paid but the margin is small with a rather fixed relationship. Given the dangers and discomforts of the work and the fact that the UMWA scale is no higher than that of such industries as steel and auto with far better working conditions, it is unrealistic to expect substantial cost cutting through further wage restraint. However, much can still be accomplished through more productive use of labor and particularly through constant reexamination of the appropriateness of various work rules which themselves are giving way under management pressure. Productivity which was stagnant throughout most of the 1970s has been advancing impressively since about 1979 (Table 8).

Table 8
Coal Mine Productivity, 1974-1984

Year	Total Miners	Average Short Tons per Day		
		Underground	Surface	Average
1974	166,701	11.31	33.16	17.58
1975	189,880	9.54	26.69	14.74
1976	202,280	9.10	26.40	14.46
1977	214,777	8.69	26.59	14.84
1978	245,659	8.38	25.78	14.68
1979	250,226	7.90	24.80	13.50
1980	242,148	9.00	27.75	15.09
1981	229,302	10.59	30.19	17.87
1982	217,117	11.16	30.60	18.13
1983	175,642	12.96	30.96	20.16
1984	177,848	13.76	32.24	21.12

Source: Energy Information Administration, Coal Production Reports, 1974-1985.

As noted earlier, technology advanced rapidly during the period of ownership by flush oil companies and the expansion of surface mining. The major improvement underway at present is the introduction of long wall mining machines in underground mines in which geology is appropriate. But at $9 - $12 million each, a well financed ownership and a promising customer relationship is necessary.

Transportation is the cost with greatest potential for cutting but a breakthrough in coal slurry pipelines will be necessary. Hence, the possibilities for substantially lowering the cost of delivered coal are limited. The greatest promise for the industry is the likely upward drift of oil and gas prices after the current low.

The U.S. Outlook -- Summary

In summary, then, the U.S. coal industry's future is tied firmly to the consumption of electricity and the price of oil. Its resurgence during the 1970s and its decline during the 1980s were primarily reflections of those two forces. Export prospects are inhibited by the cost advantage of South African, Australian and Colombian competitors. The current 2 percent per year growth in electrical production imposes that as a ceiling on coal consumption. Faster growth will require displacing competitive energy sources, particularly in the New England and West Coast states which now obtain less than 20 percent of their electricity generation from coal. Already, with declining oil prices, some of those users who switched from coal to oil but retained the standby technology are switching back. Coal's ability to compete will depend upon its success in maintaining a price level on a Btu basis below half that of oil and natural gas. That may be difficult for the immediate future but the price of oil can only rise in the long run. The coal industry will survive because it is the nation's residual energy source but its history of boom and bust has yet to be rewritten.

The Outlook for Utah Coal[3]

The outlook for Utah's coal industry must be reviewed within this national context. As the national industry's problems can be summarized in the word "overcapacity," the Utah industry's major

[3] This section is based on widespread interviews with personnel of firms and regulatory agencies, as well as examination of the public record.

handicap is explained by the word "underground." Only 4 percent of Utah's coal reserves are classified as appropriate for surface mining and that strippable coal is in areas not yet attacked commercially primarily due to transportation constraints and environmental issues.

Utah has among its advantages a high quality coal in terms of both Btu content and chemical composition (Table 7). Its disadvantages are costs stemming from underground mining and distance from market. Utah's coal has the highest Btu per ton of any western state. However, underground mining costs are such that Utah coal still costs more per Btu than the coals of the other western states (Table 9). Its low sulfur content is matched only by the coal of Colorado, Montana and Wyoming, but their surface-mined coal is cheaper as well. The transportation cost obstacle is shared with its neighboring states. In addition to distance, there is some indication that the railroads do not treat western shippers as favorably as eastern ones. Also, as noted above, public policy designed to favor the eastern coal producers prevents the western states from profiting from their more environmentally benign coal.

Table 9
Delivered and Mine Cost by State
by Origin, 1984

State	Average Mine Price per Ton	Average Delivered Price per Ton	Average Del. Price Cents/Million Btu
Utah	29.20	42.35	182.9
West Virginia	34.18	43.78	175.2
Pennsylvania	33.48	39.71	161.9
Alabama	42.90	50.91	209.9
Tennessee	28.99	44.93	179.3
Kentucky	28.61	42.90	178.6
Ohio	33.17	40.65	174.3
Colorado	23.07	37.44	174.5
Indiana	24.98	30.65	140.1
Illinois	29.89	36.05	163.5
Montana	13.57	31.48	175.5
Wyoming	11.89	30.49	176.5

Source: Energy Information Administration, Cost and Quality of Fuels for Electric Utility Plants, 1984, Col. 1, Coal Production Report, 1984, p. 31.

Western States Competition

But whether for eastern or western markets, Utah coal producers are in head-to-head competition with producers from other western states. Transportation costs, political pressures and natural affinity should give Utah coal mines preference with Utah coal users. Protecting that market as well as selling coal beyond Utah borders will depend upon bringing the price per Btu from Utah's underground mines into close proximity to that of surface mined coal in surrounding states.

Until 1970, Utah was a close competitor of Colorado as the leading coal producer of the western states (Table 10). Both were underground producers with steel-owned captive mines among their major producers. At that point surface mining began rapid expansion in Wyoming, Montana, North Dakota and Arizona with a mix of both underground and surface mining in Colorado and New Mexico--all experiencing explosive growth after the 1973-74 OPEC oil embargo.

Despite the cost disadvantages of Utah coal, the state shared in the rush to tie up western coal reserves. However, because Utah s coal industry was relatively well developed, that consisted primarily of eastern coal mining firms and oil companies buying out established Utah interests. Utah Power and Light, to insure its access and in order to support expected growth, chose to purchase its own coal properties rather than depend upon the coal market.

All of this activity was in the long-developed underground coal mining areas of Carbon and Emery, and to a smaller degree, Sevier Counties. The grandiose projections of the Utah coal future already quoted from the mid-1970s were dependent, in large part, upon the expected development of mines on the Kaiparowits Plateau of Garfield County and other virgin coal territory in Southern Utah, feeding power plants producing electricity for California (Figure 1). However, environmental protest delayed these developments until inflation had elevated their costs beyond their expected benefits and the slowing of electrical use had become apparent. Utah coal mining employment, which had been minor since the Second World War, multiplied past its wartime peak but never attained the expected mind-boggling growth (Table 11). Rising productivity allowed output to expand far more rapidly than the number of jobs created. The momentum of expansion carried employment growth well into the 1982 national recession before growing stockpiles forced retraction.

Market Location - Use and Cost

Table 12 indicates the 1981-85 markets for Utah coal by location and end use. Table 13 provides average cost per Btu by state of origin and destination for electricity generation. The Indiana market

Table 10
Intermountain Coal Mining Production
1970-1985
(thousands of short tons)

Year	Utah	Arizona	Colorado	Montana	New Mexico	North Dakota	Wyoming
1970	4,743	1,273	6,025	3,447	7,361	5,639	7,222
1971	4,626	na	5,337	7,064	8,175	6,075	8,052
1972	4,801	2,951	5,522	8,221	8,248	6,632	10,928
1973	5,650	2,965	6,232	9,950	9,340	7,400	13,600
1974	6,046	na	na	na	na	na	na
1975	6,938	7,199	8,274	22,146	8,797	8,511	23,726
1976	7,968	10,242	9,428	26,106	9,784	11,119	30,874
1977	8,837	11,475	11,920	29,320	11,255	12,165	44,500
1978	9,253	11,700	13,345	26,100	13,000	13,745	49,000
1979	12,097	11,800	18,000	32,870	12,900	14,600	75,000
1980	13,629	11,800	19,500	32,920	16,500	17,231	88,928
1981	14,205	11,587	19,300	34,204	18,425	18,300	104,000
1982	17,625	12,364	18,600	27,727	19,944	18,052	104,300
1983	11,982	11,404	16,732	28,930	20,415	19,190	112,214
1984	12,015	11,522	17,967	33,000	21,042	22,279	136,914
1985	14,325	9,788	17,108	32,513	21,042	25,761	137,790

na - not available

Sources: Utah Geological and Mineralogical Survey Monograph Series No. 3, 1972, p. 546. "Overview of Utah Coal Fields, 1982," H.H. Doelling and M.R. Smith, Utah Geological and Mineral Survey, Bulletin 118, 1982, p. 26. Utah Department of Employment Security, Labor Market Information Service Section, April 1983, p. 64 and August 1985, p. 85; Keystone Coal Industry Manual, McGraw-Hill Publication, 1970-1982; Energy Information Administration, Coal Distribution Reports, January - December, 1983-1985.

Table 11
Coal Mining Production and Employment
State of Utah, 1945-1985

Year	Production (thousand short tons)	Average Monthly Employment
1945	6,679	4,157
1950	6,670	4,289
1955	6,296	2,988
1960	4,955	2,493
1965	4,992	1,557
1970	4,743	1,371
1975	6,937	2,461
1980	13,629	4,549
1981	14,205	4,559
1982	17,625	5,151
1983	11,982	3,163
1984	12,015	2,796
1985	14,325	2,878

Sources: Production - Utah Geological and Mineral Survey, 1971-1979, Utah Mineral Industry Activity Review 1979 (Salt Lake City, October 1980); 1980 Survey Notes, Vol. 15, No. 2 (Salt Lake City, May, 1981); 1981-1982, Utah Mineral Industry Activity Review, 1981-1982 (Salt Lake City, January, 1984); 1983 and 1984 data, Unpublished material.

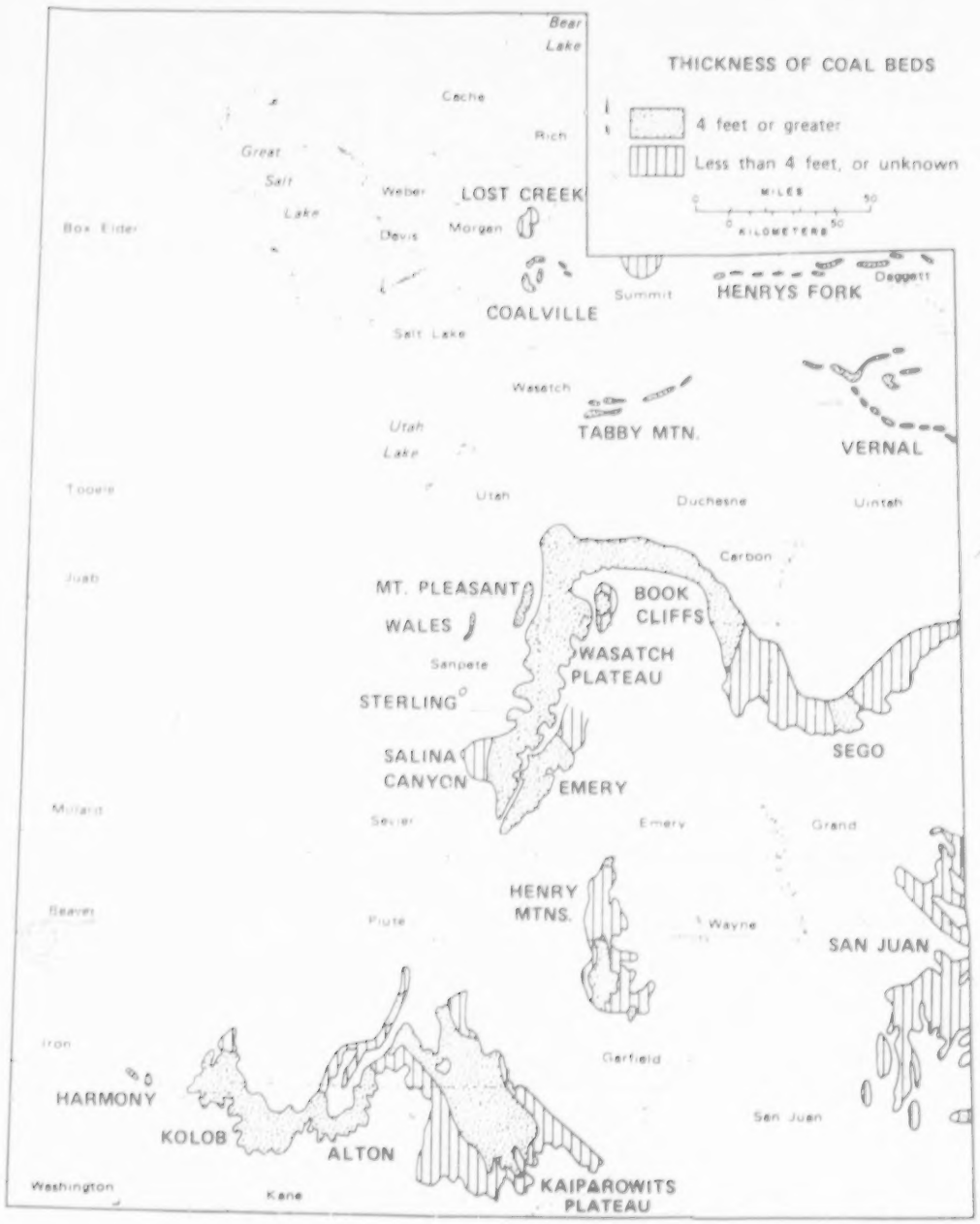
Employment - Utah Department of Employment Security, 1971-1983, Utah Annual Report 1984, Vol. III, Labor Market Information (Salt Lake City, August 1984), p. 83; 1984, Unpublished data.

was for American Electric Power which owned and has subsequently sold its Price River mine, ending the Indiana connection. Sales to Mississippi electrical utilities are, for the most part, currently governed by long term contracts negotiated during the 1970s when energy shortage and continued high prices were the general expectations. Continuation beyond current contracts is unlikely. Exports to Pacific Rim countries are declining rapidly and will likely be lost totally to Australia, South Africa and, ultimately, China. Barring a drastic change in U.S. environmental policies, Utah's coal market is likely to be limited to the Western United States.

For Utah, the potential western market consists of all three home-state end uses, electrical utilities in Arizona and Nevada, industrial use in California and Washington and commercial use in the latter state. The Northwest enjoys an abundance of low cost hydro power, in addition to which the State of Washington has made a heavy commitment to nuclear power. Electric utilities there offer little marketing opportunity for coal producing states. California is heavily committed to oil-fired electrical generation. However, it does process some Utah coal into a less environmentally damaging condition before using it for

Figure 1

Locations of Utah Coal Fields



Source: Utah Geological and Mineral Survey, Bulletin 118, 1982.

Table 12
Distribution of Utah Coal by Destination and End Use, 1981-85
(thousand short tons)

State	Electric Utilities					Industrial[a]				
	1981	1982	1983	1984	1985	1981	1982	1983	1984	1985
Utah	4,829	6,135	5,220	4,688	7,192	760	865	613	627	391
Arizona	108	99	364	470	--	--	--	--	83	63
California	--	--	--	1	--	1,926	1,747	800	1,157	1,497
Colorado	--	*	--	*	--	--	20	6	1	*
Georgia	--	--	--	--	--	--	--	--	--	19
Idaho	--	--	--	*	--	14	9	15	20	--
Indiana	490	840	350	510	--	--	--	--	--	--
Mississippi	584	787	684	608	425	--	--	--	--	--
Montana	--	--	--	--	--	65	61	37	38	14
Nebraska	288	134	--	--	--	--	--	--	--	--
Nevada	1,218	1,783	2,006	2,137	3,321	173	172	153	105	107
Oregon	--	--	--	--	--	--	*	--	25	--
Washington	--	--	--	--	--	166	172	82	109	102
Wyoming	--	--	--	--	--	79	22	--	3	1
Others	--	--	--	4	--	2	4	4	1	--
Pacific Rim[b]	--	--	--	--	--	--	--	--	--	--
Total	7,517	9,778	8,624	8,419	12,435	3,185	3,073	1,707	2,169	697

State	Residential/Commercial					Total				
	1981	1982	1983	1984	1985	1981	1982	1983	1984	1985
Utah	196	177	191	258	252	5,786	7,176	6,024	5,574	7,835
Arizona	4	--	--	--	--	108	99	364	553	63
California	2	2	2	34	53	1,929	1,748	802	1,192	1,550
Colorado	4	5	2	9	5	4	25	8	10	5
Georgia	--	--	--	--	41	--	--	--	--	60
Idaho	62	53	68	71	--	75	61	83	92	--
Indiana	--	--	--	--	--	490	840	350	510	--
Mississippi	--	--	--	--	--	584	787	684	608	425
Montana	--	--	*	--	--	65	61	37	38	14
Nebraska	--	--	1	1	*	288	134	1	1	*
Nevada	5	5	3	3	2	1,396	1,960	2,162	2,244	3,429
Oregon	--	2	2	4	--	--	3	2	29	--
Washington	97	160	206	195	212	263	332	288	305	315
Wyoming	8	4	--	--	--	87	26	--	3	1
Others	4	1	1	2	3	6	6	5	7	3
Pacific Rim[b]	--	--	--	--	--	3,472	2,177	1,346	849	625
Total	382	409	476	577	568	14,553	15,435	12,154	12,015	14,325

*Amount less than 500 tons.
[a]Total of industrial and coke plant use.
[b]End use not known.

Note: Totals may not equal sum of components due to exclusion of amounts under 500 tons.

Source: U.S. Department of Energy, Energy Information Administration, Coal Distribution Reports, January-December, 1981-1985.

Table 13
Average Delivered Cost of Coal at Steam Generation Plants
by State of Origin in States Using Utah Coal, 1984
(cents per million Btu)

Origin of Coal by State	Destination of Coal by State					
	Arizona	California	Indiana	Mississippi	Nevada	Utah
New Mexico	163.3	–	–	–	–	–
Ohio	–	–	127.5	–	–	–
West Virginia (Western)	–	–	159.3	–	–	–
Kentucky (Western)	–	–	122.7	221.0	–	–
West Virginia (Eastern)	–	–	137.2	–	–	–
Kentucky (Eastern)	–	–	127.2	183.8	–	–
Illinois	–	–	161.5	181.3	–	–
Indiana	–	–	134.8	–	–	–
Alabama	–	–	–	195.1	–	–
Colorado	–	–	294.9	305.6	–	–
New Mexico	219.8	–	252.2	–	–	–
Arizona	80.3	–	–	–	100.0	–
Wyoming	–	–	310.6	– –	–	–
Utah	235.8	229.4	333.5	319.8	197.2	134.1
Montana	–	–	254.2	–	–	–

Source: Calculated from data in Cost and Quality of Fuels for Electric Utility Plants in 1984, Energy Information Administration, Table 51.

electrical generation purposes. Because of the preprocessing, that coal is listed under the industrial end use.

The cessation of steelmaking at Kaiser Steel's Fontana, California plant cut sharply into the Utah market for metallurgical coal, and the potential closing of Geneva Steel would eliminate the remainder of that source of demand. Cement plants and canneries are major users of industrial coal but in California they, too, tend to prefer oil and gas. The closure of Kennecott's Utah operation has eliminated a major industrial user, at least temporarily. There is little residential use of coal anywhere and the major commercial use is for space heating in some large buildings or building complexes. However, the total industrial and commercial use of Utah coal is relatively small and declining. The future of Utah's coal industry, as is true for the industry nationally, rests with electrical generation.

Electrical Utility Usage--All coal-fired generating plants in Utah use Utah coal except the Deseret Generating facility near Vernal, which uses coal from a mine in Colorado, only 30 miles away. Since Utah Power and Light generates 95 percent of its electricity with coal and only 5 percent with hydro power, that home market is a sizeable market in itself. Through a multistate grid of distribution lines, Utah Power and Light sells some of the electricity it generates in Utah to other states throughout the Southwest. However, through the same linkage it buys, whenever available, hydro-generated power from the Pacific Northwest at rates below Utah production costs. Fluctuating demands in the two areas sometimes have the export exceeding the import and vice versa, but the total amount of electricity involved is relatively small.

Wyoming Coal Competition--Beyond the limited amount of imported hydro power available, the only competitor for Utah coal in its own home market is Wyoming coal. Oil and gas are not in-state competitors for electricity generation and industrial uses. Some discussion occurred during the negotiations for the Intermountain Power Project (IPP) of using Wyoming coal. Then-Governor Scott Matheson vetoed that discussion. If the price differential between Wyoming and Utah coals became wide enough, Utah electrical users would eventually demand the lower cost coal to reduce their electricity rates. However, Utah mine productivity rates have been rising relative to Wyoming's, despite the disadvantage of underground vs. surface-mined coal (Table 14). Coupled with the superior Btu content and lower transportation costs, the cost differential is too small to

create any such demand. Hence, as long as it continues to improve its productivity, the Utah coal industry can be assured of its home electricity generation market. That market in 1985 was over 7 million tons as shown in Table 12, though the period to August, 1986, has been a less favorable production year. The IPP, for which the first unit is now ready to come on line, is designed to consume 4 million tons of coal per year at full output. Its initial coal consumption will be well below that but with both units completed coal sales to Utah-based utilities should run to 10 million tons. Current projections call for a near term expansion of around 3 percent per year in Utah electricity output (Table 15), with proportionate increase in coal consumption.

Table 14
Western States' Coal Mine Average
Productivity, 1979-1984
(tons per miner hour)

State	1979	1980	1981	1982	1983	1984
Arizona	5.85	5.29	6.52	6.22	6.45	6.38
Colorado	2.42	2.26	2.51	2.68	3.12	3.24
Montana	13.34	11.96	12.97	12.27	13.92	14.27
New Mexico	5.63	5.30	5.17	5.33	7.06	5.92
North Dakota	8.74	8.97	9.33	9.27	9.13	10.10
Wyoming	8.35	8.99	9.85	11.06	11.69	13.77
Utah	1.73	1.96	1.99	2.05	2.59	2.94
U.S.	1.81	1.93	2.10	2.11	2.50	2.64

Source: Energy Information Administration, Coal Production Reports 1978-1985.

Table 15
Projections of Utah Power
and Light System Load
Average Annual Rate of Growth
February, 1986
(percent)

Year	Utah	Idaho	Wyoming
1985-1990	3.76	1.14	1.92
1990-1995	2.00	0.45	-0.34
1995-2000	1.85	0.38	0.03
2000-2005	2.05	0.38	0.03
2005-2010	2.14	0.62	0.04
1985-2010	2.30	0.69	0.33

Source: Utah State Public Service Commission and Bureau of Economic and Business Research, University of Utah, Salt Lake City, Utah.

Marketing Battlegrounds--The significant marketing battlegrounds for Utah coal are Nevada and California. The competitors are Wyoming for Nevada's usage and water-transported Canadian coals for California. For both, cost is the critical factor. During the period of expected coal shortage, Nevada Power signed long term contracts with Utah coal mines extending to 1994 at prices influenced by 1970s oil prices. By 1986, those contract coal prices were nearly double coal prices in the spot market and Nevada Power was trying to escape its contract commitments. It refused to honor its minimum volume purchase guarantee, was ordered by the Utah courts to continue doing so and has now appealed that order to the Utah Supreme Court. Meantime, the first Wyoming coal has entered the Nevada electric generation market. Idaho Power had signed a long term contract with a Wyoming mine to feed a proposed new power plant which it has now decided is not needed. To escape its supply contract, Idaho power sold the contract to Sierra Power for use in a Northern Nevada generating unit. The event signals the possible advent of competition for the Utah industry's major external customer.

Cost Reduction Areas--The two major sources of cost reduction available to Utah coal mines are labor productivity and transportation. Given the working conditions and dangers of coal mining, the $16 average hourly earnings of Utah coal miners in 1985, including incentive and premium pay, has not resulted in a flood of applicants nor has it eliminated turnover; hence, the pursuit of more productive use of labor rather than wage cutting to reduce labor costs. Reduction in restrictive work rules, to the extent that can be done without risking safety, and the spread of long wall mining techniques are the most promising sources of productivity improvement. With those, the most productive Utah mine now averages 8 tons per miner hour, an underground rate 60 percent of the average attained by Wyoming surface mines. If that best rate were Utah's average, coal costs per Btu in the two states would be approximately equivalent. Because of the $9 to $12 million price tag for a long wall machine, those productivity rates and survival in the industry of overcapacity will undoubtedly drift in the direction of the larger and better financed mines, and that will be to the advantage of electricity consumers.

Utah mines have a small railroad cost advantage in Nevada and California vis-a-vis Wyoming mines because of distance. Any reduction in railroad freight rates could be won by competing mines as well. Therefore, the only substantial competitive gains in transportation costs would have to come from either a coal slurry pipeline or from generation of electricity

in Utah for transmission into neighboring states. Such a pipeline was once planned for use along with development of Southwestern Utah coal reserves, but was abandoned with that project. That possibility has re-emerged with discussion of a new power plant near Las Vegas umbilically fed through a coal slurry pipeline from the Alton Field near Bryce Canyon. The development is controversial, environmentally because of its location and competitively because existing Carbon, Emery and Sevier County mines are the most likely alternative sources. On the other hand, it would be Utah's first adventure into surface-mined coal with costs unbeatable from any other source.

Sufficient electrical generating capacity was once planned for the IPP to meet expected West Coast demand but was deleted from the project when that demand growth was not forthcoming. That extra capacity could be added if ever needed, though excess capacity is more common at this point.

Utah's Coal Future -- Summary

The future of Utah's coal industry is brighter than that of the nation in one regard. Utah coal is not in competition with oil. Its primary use is electric power generation which, though growing more slowly than anticipated a decade ago, is a reasonably stable demand. With limited supplies, world oil prices will again rise. Eventually coal, oil shale and other alternative energy sources, including solar, will have to be tapped. Utah mines will profit from that development which is 10 to 20 years away. The U.S. is probably short-sighted in not continuing research into those alternatives but is more likely to institute another crash program when another real or imaginary crisis arrives. Until then, Utah coal's future is tied closely to the future of electrical generation at home and in neighboring states.

Despite the 1986 low ebb created by recent production declines and layoffs, the longer run outlook appears to be as follows:

1. A dependable base of consumption within the state of 1985's approximately 12 million tons, once IPP is on-line, increasing at an average of 2 to 3 percent per year.

2. A strong probability of keeping Nevada's approximately 3 million tons, increasing at about the same pace, but depending upon meeting the challenge of Wyoming competition by persistent productivity improvements.

3. A reasonable possibility, based on the same premise, of keeping a share of California's industrial market.

4. An aggregate long term output projection, therefore, of an average of about 15 million tons per year plus a 2 percent annual growth factor from 1985.

5. Since that growth factor is exceeded by the average increase in labor productivity in Utah's mines, coal mining employment in the state should fluctuate around a slowly declining trend of 1 or 2 percent per year.

Though these are far below the projections which were broadcast during the late 1970s, the production forecast is far above anything that existed prior to that time. The employment picture, though also bleak in comparison to earlier expectations, still equals the mid-1970s and doubles the low ebb at the end of the 1960s. It was the abortive and speculative boom of the late 1970s and early 1980s which caused the subsequent pain.

Despite the failure of the overexpectations of the 1970s, the Utah coal industry has a dependable future but its owners and employees must resign themselves to, as well as reassure themselves by, the realistic prospects. Eventually oil supplies will give out and coal, along with synthetic fuels, will be the ultimate reliance. But that is a generation away. Utah will never be a major coal producing state nor will coal be a major contributor to the state's economy. However, for Carbon, Emery and Sevier Counties, coal output should increase slowly from its 1985-86 level as a primary base for those local economies.

The reduction in production and unemployment from the 1982 peak has been painful for everyone concerned, but especially for those who have lost their jobs. But that painful shakeout period appears to be over. After averaging about 2,800 throughout 1984 and 1985, coal mining employment in Utah fluctuated between 2,600 and 3,100 during the first seven months of 1986. That experience is a good indicator of the future. There will continue to be modest fluctuations, but coal mining employment should now stabilize into a long-term slow decline less than the normal rate of attrition. There will be only a modest amount of replacement opportunity in the foreseeable future. Those left in the industry in Utah should have as stable employment as the peculiarities of the coal industry have ever allowed, but little hope can be held out to potential new entrants to this volatile industry.

Utah Business Statistics

UTAH DATA	May 1985	May 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month % Change
Total Personal Income (seasonally adjusted) (mil. of dol.) (qtly.)	16,976	NA	NA	14,341.4	16,523.6	-13.2%
New Corporations (no.)	486	479	-1.4%	452.3	460.8	-1.8%
New Car, Truck and Motorhome Sales (no.)	7,642	NA	NA	NA	6,474.8	NA
Agriculture						
Average Prices Recorded by Farmers (dol.)						
Beef Steers and Heifers (cwt) (thous.)	58.30	52.50	-9.7%	54.1	54.4	-0.6%
Lambs (cwt)	57.50	69.50	20.9%	64.7	54.9	17.9%
Milk, wholesale (cwt)	12.50	11.90	-4.8%	11.8	12.4	-4.9%
Alfalfa Hay, Baled (per ton)	74.00	73.00	-1.4%	77.5	74.1	4.8%
Cattle Slaughtered (live weight) (thous. of lbs.)	33,445	34,230	2.3%	34,[illegible].1	31,459.3	9.6%
Construction						
Total Construction (thous. of dol.)[1]	144,500	134,[illegible]	-6.4%	131,226.1	123,541.7	6.2%
Residential	94,400	90,543	-4.1%	86,129.1	82,256.3	4.7%
Nonresidential	38,[illegible]	41,164	6.9%	44,547.4	35,258.3	26.3%
Public Works and Utilities	[illegible]400	2,[illegible]213	3.3%	2,[illegible]49.6	2,[illegible]43.1	-5.0%
Total Permit Construction (thous. of dol.)[2]	128,[illegible]78.0	110,371.5	-1.6%	121,055.4	122,252.7	-0.9%
Residential	73,622.9	80,831.4	9.8%	80,[illegible]72.5	83,[illegible]9.2	-4.4%
Nonresidential	43,372.9	27,660.3	-12.5%	34,[illegible]41.1	44,675.2	-4.0%
Additions, Alterations and Repairs	11,[illegible]82.2	11,[illegible]79.8	-4.2%	15,[illegible]41.6	15,[illegible]64.3	-3.0%
New Dwelling Units (no.)	[illegible],[illegible]4	1,[illegible]69	-[illegible].2%	1,[illegible]27.4	1,[illegible]57.1	-22.6%
Employment						
Civilian Labor Force (thous.)	791.0	740.1	-1.4%	761.5	733.2	3.5%
Total Employed Persons	686.7	702.2	2.3%	708.8	685.6	3.4%
Unemployed Persons	44.3	38.1	-14.0%	42.5	47.6	-10.8%
Percent Total Labor Force	6.1	5.1	-16.4%	5.6	6.5	-13.2%
Employees on Nonagricultural Payrolls (thous. of jobs)	625.3	644.9	3.1%	641.2	613.2	2.9%
Manufacturing	90.1	92.5	2.7%	94.3	95.6	-1.4%
Mining	5.6	4.4	-21.4%	5.0	11.4	-21.4%
Contract Construction	35.4	34.3	-3.1%	34.4	36.4	-5.2%
Transportation, Communication and Utilities	36.7	37.0	0.8%	36.9	36.5	1.3%
Wholesale Trade	36.1	36.2	0.3%	35.4	35.3	1.3%
Retail Trade	111.4	119.0	6.7%	114.3	109.2	4.6%
Finance, Insurance and Real Estate	33.3	34.1	2.4%	34.8	33.4	4.2%
Services[3]	125.9	134.4	6.7%	134.2	128.4	4.5%
Federal Government	39.1	40.8	4.3%	43.9	41.1	6.8%
State Government[4]	36.4	39.1	7.4%	39.5	38.1	3.7%
Local Government	63.4	65.8	3.8%	67.7	64.3	5.3%
Average Weekly Hours						
Manufacturing	40.1	40.4	0.7%	40.3	39.7	1.4%
Mining	44.0	46.1	4.8%	44.1	43.4	1.5%
Contract Construction	NA	NA	NA	NA	NA	NA
Wholesale Trade	37.3	37.5	0.5%	37.4	36.8	1.7%
Retail Trade	25.1	25.3	0.8%	25.2	25.0	0.8%
Amount of Unemployment Compensation (thous. of dol.)	[illegible],[illegible]3.2	[illegible],[illegible]0.4	-[illegible].3%	[illegible],[illegible]7.1	[illegible],[illegible]4.9	[illegible].7%
Finance						
Savings, Savings and Loan Association (mil. of dol.)	2,[illegible]6.7	2,[illegible]1.4	-1.8%	2,353.6	2,227.1	5.7%
Tax Collections by the State of Utah (thous. of dol.)						
Total Tax Collections	[illegible]9,[illegible]4.9	[illegible]5,[illegible]8.3	0.9%	[illegible]6,[illegible]4.4	[illegible]2,[illegible]0.7	3.7%
Sales and Use Tax	[illegible]3,[illegible]6.6	[illegible]1,[illegible]5.0	0.3%	45,[illegible]1.3	45,[illegible]2.5	0.1%
Motor Fuel Tax	[illegible],[illegible]7.4	[illegible],[illegible]1.1	9.1%	7,[illegible]9.6	7,[illegible]0.2	5.8%
Individual Income Tax	[illegible]6,[illegible]5.5	[illegible]9,[illegible]7.3	8.1%	37,[illegible]6.9	36,[illegible]3.6	3.7%
Corporation Franchise Tax	10,[illegible]3.8	10,[illegible]7.1	0.9%	5,[illegible]6.7	4,[illegible]8.6	23.7%
Production						
Net Electric Power utilized (mil. of kwh)	1,077.0	NA	NA	NA	1,[illegible]5.0	NA
Crude Oil to Refineries (thous. of bbls.)	4,[illegible]5.5	4,000.0	-12.5%	3,[illegible]2.5	4,[illegible]4.0	-11.8%
Crude Oil (thous. of bbls.)	3,[illegible]4.4	3,[illegible]3.2	1.9%	3,502.5	3,[illegible]4.4	7.3%
Natural Gas (mil. of cu. ft.)	[illegible]6,[illegible]0.9	[illegible]7,[illegible]6.3	4.7%	[illegible]8,[illegible]3.9	[illegible]5,[illegible]9.4	[illegible]9.8%
Coal (thous. short tons)	608	1,060	31.2%	1,072.7	986.9	8.8%
Tourism/Travel						
Air Passengers (total no. on and off) (S.L. Int'l Airport)	761,877	829,264	8.8%	783,470.7	675,276.7	16.0%
Highway Traffic Count Across State Lines	36,697	36,782	0.2%	35,064.7	33,888.2	3.5%
Transient Room Taxes (thous. of dol.)	1,343.9	1,061.5	-21.0%	784.4	409.5	-6.1%
Visits, State, Nat'l. Parks, Monuments (thous.)	1,420.0	1,627.3	14.6%	1,028.6	940.8	9.3%
Utilities						
Telephone Lines in Service (Mt. Bell) (Residential)	458,880	469,072	2.2%	466,239.3	455,894.9	2.3%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	166,260	167,493	0.7%	166,354.8	164,968.8	0.8%
Electric Customers (Residential)	437,980	NA	NA	NA	430,993.9	NA
Electric Customers (Commercial)	42,981	NA	NA	NA	42,071.3	NA
Natural Gas Customers (Residential & Commercial)	421,960	434,762	3.0%	428,044.9	416,684.8	2.7%
Natural Gas Customers (Industrial)	562	567	0.9%	570.5	531.7	7.3%

Utah Business Statistics

UTAH DATA	May 1985	May 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Davis County						
Non-Ag. Employment (thous.)	51.6	52.7	2.1%	51.9	50.1	3.6%
Unemployment Rate	3.8	3.4	-10.5%	3.8	4.3	-12.6%
Auth. Permit Construction (thous. of dol.)	10,357.2	20,509.0	98.0%	15,363.8	11,064.8	38.9%
New Dwelling Units (no.)	113	209	85.0%	201.9	169.5	19.5%
Postal Receipts (thous. of dol.)	331.7	356.7	7.5%	321.2	338.1	-5.0%
Electric Customers (Residential)	34,328	NA	NA	NA	32,348.5	NA
Electric Customers (Commercial)	2,524	NA	NA	NA	2,419.0	NA
Natural Gas Customers (Residential)	44,310	46,061	4.4%	45,031.0	43,077.1	4.5%
Natural Gas Customers (Industrial)	49	50	2.0%	50.4	46.4	8.6%
Telephone Lines in Service (Mt. Bell)(Residential)	39,168	52,743	34.7%	50,085.8	38,479.7	30.2%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	7,518	10,097	4.3%	9,633.8	7,245.1	33.0%
Salt Lake County						
Non-Ag. Employment (thous.)	324.9	334.3	2.9%	328.7	319.5	2.9%
Unemployment Rate	5.9	4.8	-18.6%	5.6	6.1	-9.0%
Auth. Permit Construction (thous. of dol.)	62,616.4	55,025.5	-12.1%	62,369.7	63,834.5	-2.3%
New Dwelling Units (no.)	1,424	842	-61.9%	1,541.9	933.9	-42.0%
Postal Receipts (thous. of dol.)	6,811.5	7,264.3	6.6%	7,330.9	6,740.1	8.8%
Electric Customers (Residential)	220,184	NA	NA	NA	217,965.4	NA
Electric Customers (Commercial)	16,349	NA	NA	NA	16,171.7	NA
Natural Gas Customers (Residential)	205,069	212,415	3.6%	208,400.9	201,652.6	3.3%
Natural Gas Customers (Industrial)	263	253	3.8%	260.0	242.3	7.3%
Telephone Lines in Service (Mt. Bell)(Residential)	216,290	223,751	3.4%	219,347.7	213,870.5	2.6%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	109,021	107,468	-1.4%	107,247.4	106,467.8	-1.1%
Utah County						
Non-Ag. Employment (thous.)	67.7	69.1	2.1%	71.4	69.7	2.0%
Unemployment Rate	6.8	6.0	-12.0%	6.0	7.0	-13.8%
Auth. Permit Construction (thous. of dol.)	12,193.4	14,134.2	15.9%	10,895.6	13,671.1	-14.7%
New Dwelling Units (no.)	194	276	121.6%	362.4	394.1	-6.4%
Postal Receipts (thous. of dol.)	606.3	648.3	6.9%	616.4	653.2	-5.5%
Electric Customers (Residential)	49,240	NA	NA	NA	47,707.1	NA
Electric Customers (Commercial)	3,410	NA	NA	NA	3,329.8	NA
Natural Gas Customers (Residential)	49,254	51,249	4.1%	50,047.4	44,007.4	1.6%
Natural Gas Customers (Industrial)	71	71	0.0%	71.5	67.1	6.6%
Telephone Lines in Service (Mt. Bell)(Residential)	38,635	41,511	7.4%	41,464.6	40,479.3	2.4%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	14,631	15,144	3.5%	15,260.4	14,683.4	3.9%
Weber County						
Non-Ag. Employment (thous.)	53.5	54.2	1.4%	53.8	51.2	4.8%
Unemployment Rate	5.4	5.2	-3.1%	5.3	6.4	-19.5%
Auth. Permit Construction (thous. of dol.)	10,434.4	10,844.8	4.0%	9,908.6	8,113.4	9.9%
New Dwelling Units (no.)	139	162	16.5%	193.2	176.2	9.6%
Postal Receipts (thous. of dol.)	384.6	423.6	10.1%	403.1	329.4	22.4%
Electric Customers (Residential)	57,479	NA	NA	NA	56,204.2	NA
Electric Customers (Commercial)	4,646	NA	NA	NA	4,498.3	NA
Natural Gas Customers (Residential)	46,405	47,974	3.4%	47,569.1	46,476.4	2.3%
Natural Gas Customers (Industrial)	88	87	-1.1%	89.2	96.4	-13.6%
Telephone Lines in Service (Mt. Bell)(Residential)	45,004	48,341	7.4%	47,745.2	44,945.6	6.2%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	12,077	12,463	3.2%	12,402.8	12,059.4	2.8%

* Revised P Preliminary F Forecast NA Not available

Sources:

Personal Income	Bureau of Economic Analysis, U.S. Department of Commerce
New Corporations	Utah Secretary of State
New Car and Truck Sales	Utah State Tax Commission, Economic and Statistical Unit
Agriculture	U.S. Department of Agriculture, Agriculture, Utah; Utah Crop and Livestock Reporting Service
Construction Data	F.W. Dodge and Utah Construction Report
Employment Data	Utah Department of Employment Security
Savings and Savings and Loan Associations	Utah Savings and Loan Institutions
Tax Collections	Utah State Tax Commission
Net Electric Power Utilized	Cooperating Utah power companies
Crude Oil	Area oil refineries
Natural Gas	Utah Division of Oil, Gas, and Mining
Coal	Department of Energy
Air Passengers	Salt Lake International Airport, Statistics Division
Highway Traffic Count	Utah Department of Transportation
Visits to State and National Parks and Monuments	U.S. Forest Service, Utah State Parks and Recreation Department
Utilities Data	Cooperating Utah utility companies
Postal Receipts	Postmasters in Davis, Salt Lake and Weber Counties

Footnotes:

1. Obtained from F.W. Dodge Statistics
2. Obtained from Utah Construction Report
3. Includes services of nonprofit and religious institutions
4. Includes public schools and college institutions

Utah Business Statistics

	June 1985	June 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
Total Personal Income (seasonally adjusted) (mil. of dol.) (qtly.)	16,976	NA	NA	12,926.8	16,652.0	-22.2%
New Corporations (no.)	422	445	5.5%	454.2	456.3	-0.5%
New Car, Truck and Motorhome Sales (no.)	6,751	NA	NA	NA	6,423.3	NA
Agriculture						
Average Prices Recorded by Farmers (dol.)						
Beef Steers and Heifers (cwt) (thous.)	55.40	51.00	-8.1%	53.7	58.9	-8.8%
Lambs (cwt)	66.00	69.40	5.2%	65.0	59.8	8.6%
Milk Wholesale (cwt)	11.30	11.20	-0.9%	11.5	12.6	-9.4%
Alfalfa Hay, Baled (per ton)	76.00	71.00	-6.6%	71.1	74.5	-4.6%
Cattle Slaughtered (live weight) (thous. of lbs.)	28,693	37,409	30.4%	35,212.4	31,338.1	12.4%
Construction						
Total Construction (thous. of dol.) (c)	139,600	244,093	88.3%	140,747.2	123,491.7	14.0%
Residential	56,600	75,317	28.5%	60,516.2	61,425.0	-1.5%
Nonresidential	66,000	139,440	149.1%	51,504.9	37,641.7	36.8%
Public Works and Utilities	15,100	29,286	93.9%	28,967.8	24,400.0	18.7%
Total Permit Construction (thous. of dol.) (d)	108,120.2	146,093.8	35.1%	124,259.9	118,334.4	5.0%
Residential	59,220.9	76,895.5	29.8%	62,047.0	60,454.2	2.6%
Nonresidential	35,502.3	50,827.3	43.2%	47,748.5	43,895.2	8.8%
Additions, Alterations and Repairs	13,417.3	18,653.4%	39.0%	14,987.4	13,985.0	0.0%
New Dwelling Units (no.)	1,150	1,734	50.8%	1,272.1	1,437.6	-11.5%
Employment						
Civilian Labor Force (thous.)	741.9	750.9	1.2%	753.2	734.2	2.4%
Total Employed Persons	697.4	707.2	1.4%	709.6	686.6	3.3%
Unemployed Persons	44.5	43.8	-1.5%	43.6	47.6	-11.3%
Percent Total Labor Force	6.0	5.8	-3.3%	5.8	6.5	-13.8%
Employees on Nonagricultural Payrolls (thous. of jobs)	633.2	640.1	1.0%	632.1	614.0	2.8%
Manufacturing	94.0	93.8	-0.2%	94.2	95.7	-1.7%
Mining	14.1	11.4	-19.4%	11.4	11.1	20.6%
Contract Construction	37.5	36.5	-2.5%	37.4	38.5	-2.9%
Transportation, Communication and Pub. Util.	37.4	37.8	1.1%	37.8	36.5	1.2%
Wholesale Trade	36.1	36.1	0.0%	35.4	35.4	1.0%
Retail Trade	111.8	110.1	-1.5%	114.1	109.6	4.6%
Finance, Insurance and Real Estate	34.1	34.3	0.6%	33.5	32.0	4.8%
Services (a)	138.1	140.0	1.4%	134.1	126.1	6.8%
Federal Government	42.4	42.4	0.0%	43.0	41.2	4.4%
State Government	46.1	47.1	2.2%	45.2	43.4	4.1%
Local Government	61.5	61.5	0.0%	65.4	62.7	4.4%
Average Weekly Wages						
Manufacturing						
Mining						
Contract Construction						
Retail Trade						
Services						
Total Private						
Federal Government						
State Government						
Local Government						
Total Government						
Average Weekly Hours						
Manufacturing						
Mining						
Contract Construction						
Retail Trade						
Services						
Total Private						
Federal Government						
State Government						
Local Government						
Total Government						
Average Hourly Earnings						
Manufacturing						
Mining						
Contract Construction						
Retail Trade						
Services						
Total Private						
Federal Government						
State Government						
Local Government						
Total Government						
Average Weekly Hours						
Manufacturing						
Mining						
Contract Construction						
Retail Trade						
Services						
Total Private						
Federal Government						
State Government						
Local Government						
Total Government						
Average Hourly Earnings						
Manufacturing						
Mining						
Contract Construction						
Retail Trade						
Services						
Total Private						
Federal Government						
State Government						
Local Government						
Total Government						
Average Weekly Wages

Utah Business Statistics

UTAH DATA	June 1985	June 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month % Change
Davis County						
Non-Ag. Employment (thous.)	52.7	52.8fo	1.1%	51.9	50.1	3.3%
Unemployment Rate	4.1	3.9	-4.9%	3.7	4.2	-12.0%
Auth. Permit Construction (thous. of dol.)	15,867.9	27,750.0	73.9%	16,345.6	10,726.9	52.4%
New Dwelling Units (no.)	176	580	229.5%	235.6	136.8	72.3%
Postal Receipts (thous. of dol.)	313.7	330.1	5.4%	322.6	340.8	-5.3%
Electric Customers (Residential)	32,462	NA	NA	NA	32,506.3	NA
Electric Customers (Commercial)	2,417	NA	NA	NA	2,428.3	NA
Natural Gas Customers (Residential)	44,023	46,153	4.8%	45,208.5	43,233.4	4.6%
Natural Gas Customers (Industrial)	50	50	0.0%	45.4	46.8	7.7%
Telephone Lines in Service (Mt. Bell)(Residential)	39,229	52,955	35.0%	51,229.5	38,597.5	32.7%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	7,568	10,123	33.8%	9,846.8	7,301.4	34.8%
Salt Lake County						
Non-Ag. Employment (thous.)	327.1	336.5fo	2.9%	329.5	320.4	2.8%
Unemployment Rate	5.8	5.0	-13.8%	5.5	6.1	-10.2%
Auth. Permit Construction (thous. of dol.)	46,869.9	75,616.3	61.3%	64,781.9	61,532.7	5.3%
New Dwelling Units (no.)	445	688	54.6%	562.2	414.9	32.7%
Postal Receipts (thous. of dol.)	6,307.4	7,116.9	12.8%	7,196.3	6,807.0	5.7%
Electric Customers (Residential)	221,951	NA	NA	NA	218,522.6	NA
Electric Customers (Commercial)	18,495	NA	NA	NA	18,218.0	NA
Natural Gas Customers (Residential)	203,457	211,694	4.0%	209,067.3	202,105.6	7.5%
Natural Gas Customers (Industrial)	269	256	-4.1%	259.1	244.8	5.9%
Telephone Lines in Service (Mt. Bell)(Residential)	215,854	221,901	7.8%	219,851.6	214,218.4	4.6%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	109,512	107,632	-1.7%	107,090.8	108,609.8	-1.4%
Utah County						
Non-Ag. Employment (thous.)	68.3	69.7fo	2.0%	71.8	69.8	3.0%
Unemployment Rate	6.5	5.3	-18.5%	5.8	7.0	-15.7%
Auth. Permit Construction (thous. of dol.)	8,601.1	13,799.9	56.8%	10,712.1	13,287.1	-19.4%
New Dwelling Units (no.)	102	162	58.8%	97.8	89.6	9.1%
Postal Receipts (thous. of dol.)	845.8	864.4	1.0%	917.1	883.7	3.8%
Electric Customers (Residential)	47,409	NA	NA	NA	47,780.8	NA
Electric Customers (Commercial)	5,661	NA	NA	NA	5,820.3	NA
Natural Gas Customers (Residential)	58,111	59,080	1.7%	59,044.2	58,103.1	1.6%
Natural Gas Customers (Industrial)	72	73	1.4%	70.7	67.8	4.3%
Telephone Lines in Service (Mt. Bell)(Residential)	59,256	60,141	1.5%	61,642.3	60,825.1	1.3%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	14,650	15,825	8.0%	15,348.7	14,642.9	4.8%
Weber County						
Non-Ag. Employment (thous.)	87.2	86.9fo	-0.2%	84.0	80.5	4.4%
Unemployment Rate	5.6	5.8	2.0%	7.3	6.5	10.9%
Auth. Permit Construction (thous. of dol.)	11,191.5	7,403.0	-33.8%	8,625.8	8,468.8	1.9%
New Dwelling Units (no.)	66	67	1.5%	92.5	77.9	18.7%
Postal Receipts (thous. of dol.)	538.6	544.2	1.0%	604.1	580.9	4.0%
Electric Customers (Residential)	50,066	NA	NA	NA	50,352.1	NA
Electric Customers (Commercial)	4,583	NA	NA	NA	4,547.7	NA
Natural Gas Customers (Residential)	46,833	47,812	2.1%	47,464.9	46,637.7	1.8%
Natural Gas Customers (Industrial)	85	87	2.4%	86.6	76.5	13.2%
Telephone Lines in Service (Mt. Bell)(Residential)	44,956	45,367	0.9%	45,215.2	44,734.1	1.1%
Telephone Lines in Service (Mt. Bell)(Nonresidential)	10,349	10,498	1.4%	10,514.2	10,264.0	2.4%

r Revised p Preliminary fo Forecast na = Not available

Sources:

Personal Income:	Bureau of Economic Analysis, U.S. Department of Commerce
New Corporations:	Utah Secretary of State
New Car and Truck Sales:	Utah State Tax Commission, Economic and Statistical Unit
Agriculture:	U.S. Department of Agriculture, Agriculture, Utah; Utah Crop and Livestock Reporting Service
Construction Data:	F.W. Dodge and Utah Construction Report
Employment Data:	Utah Department of Employment Security
Savings and Savings and Loan Associations:	Utah Savings and Loan Institutions
Tax Collections:	Utah State Tax Commission
Net Electric Power Utilized:	Cooperating Utah power companies
Crude Oil:	Area oil refineries
Natural Gas:	Utah Division of Oil, Gas, and Mining
Coal:	Department of Energy
Air Passengers:	Salt Lake International Airport, Statistics Division
Highway Traffic Count:	Utah Department of Transportation
Visits to State and National Parks and Monuments:	U.S. Forest Service, Utah State Parks and Recreation Department
Utilities Data:	Cooperating Utah utility companies
Postal Receipts:	Postmasters in Davis, Salt Lake and Weber Counties

Footnotes:

1 Obtained from F.W. Dodge Statistics
2 Obtained from Utah Construction Report
3 Includes services by nonprofit and religious institutions
4 Includes public schools and college institutions

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University of Utah
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NATIONAL DATA

	June 1985	June 1986	% Change From Year Ago	12 Month Average This Year	12 Month Average Last Year	12 Month Average % Change
U.S. Gross National Product (seasonally adjusted) (bil. $ [qtly.]	4,040.6	4,192.7P	3.8%	4,102.5	3,989.3	2.8%
Total Personal Income (seasonally adjusted) (bil. of dol.)	3,483.5	3,679.1	5.6%	3,591.4	3,412.3	5.2%
Industrial Production Indexes (seasonally adjusted) (1977=100)	124.0	124.5	-0.3%	125.1	123.6	1.2%
Total Non-Farm Bus. Expend. on New Plants & Equip. ($ bil. [qtly.])	367.6	377.4P	5.1%	369.5	371.4	-0.5%
Index of Leading Indicators (1967=100)	166.4	174.6	7.3%	173.4	165.7	4.6%
Price Indexes						
Consumer Price Indexes (not seasonally adjusted) (1967=100)						
CPI-U (All Urban Consumers) All Items	321.3	327.9	1.7%	328.8	316.8	3.8%
CPI-U (All Urban Consumers) Food & Beverages	305.4	314.5	2.7%	313.2	299.8	4.5%
CPI-U (All Urban Consumers) Housing	308.4	311.2	3.1%	310.2	301.1	3.1%
CPI-U (All Urban Consumers) Transportation	301.9	314.4	4.1%	314.7	316.1	-0.4%
CPI-U (All Urban Consumers) Medical Care	421.7	432.1	7.5%	427.8	407.5	5.0%
CPI-U (All Urban Consumers) Energy	436.6	405.6	-12.9%	428.4	474.6	-9.7%
Producer Price Index (not seasonally adjusted) (1967=100)						
Producer Price Index, All Finished Goods	294.0	298.4	1.7%	296.3	292.4	0.9%
GNP Price Deflator (1982=100) (qtly.)	111.1	114.1P	2.7%	113.2	110.0	3.0%
Employment (seasonally adjusted)						
Civilian Labor Force (mil.)	116.4	118.4	10.8%	117.3	106.4	5.9%
Total Employed Persons (mil.)	110.4	109.7	-3.8%	110.4	114.6	-3.7%
Unemployment Rate	7.1	7.3	1.4%	7.1	7.1	3.1%
Construction						
Total Construction (mil. of dol.)	18,423.6	22,649.1	25.7%	19,464.1	17,741.4	9.7%
Residential	7,214.8	10,094.4	24.5%	8,168.7	7,321.7	11.7%
Nonresidential	6,208.8	8,763.3	13.4%	6,443.2	6,301.8	2.2%
Non-Building	4,999.9	3,791.4	-1.7%	4,852.2	4,117.7	17.8%
New Dwelling Units (no.)	1,241,000	1,622,000	17.4%	1,445,000	1,231,000	17.3%
Interest Rates						
Short Term (3-month Treasury bill rate)	7.2%	6.1%	-1.4%	6.8%	8.8%	-22.7%
Long Term (30-year Treasury bond yields)	10.3%	8.2%	-2.0%	9.1%	11.3%	-19.5%
Prime Rates Charged by Banks on Short-term Business Loans (ave.)	9.7%	8.9%	-1.7%	9.7%	11.4%	-14.9%
Mortgage Rates (new homes)	11.6%	9.4%	-14.1%	10.9%	12.6%	-13.5%

P Preliminary r Revised na Not available a Anticipated

Sources: Business Conditions Digest, U.S. Department of Commerce: U.S. Gross National Product, Total National Personal Income, Industrial Production Indexes, Total Business Expenditures for New Plant and Equipment, Index of Leading Indicators, GNP Price Deflator, National Employment Data, Interest Rates

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Chase N. Peterson, *President, University of Utah*
Iver E. Bradley, *Dean, Graduate School of Business*

BUREAU OF ECONOMIC AND BUSINESS RESEARCH

R. Thayne Robson, Director
Frank C. Hachman, Associate Director

graduate school of business
bureau of economic and business research
university of utah

STAFF OF THE BUREAU OF ECONOMIC AND BUSINESS RESEARCH

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